## Appendix F

Componet Class:  W  Assumptions:  1.) Uranium assay is 0.2% U-235  2.) Maximum level of TRU and FP in Slag is concentrated by a factor of 1.91 based on reaction of UF4 with Magnesium metal  3.) Maximum concentrations of TRU and FP are still the same as Activity 5 in the UF4  4.) All TRU and FP goes to Magnesium Fluoride Slag  5.) Uranium Metal produced at PGDP is 9E+09g (shipments-receipts)  Maximum Constituent/Calculations:  Pu: .063ppb			Act	ivity 11 V	Vorksheet	t. Magnesium Flu	oride	in U-Metal Man	ufacturing		
Assumptions:  1.) Uranium assay is 0.2% U-235  2.) Maximum level of TRU and FP in Slag is concentrated by a factor of 1.91 based on reaction of UF4 with Magnesium metal 3.) Maximum concentrations of TRU and FP are still the same as Activity 5 in the UF4  4.) All TRU and FP goes to Magnesium Fluoride Slag 5.) Uranium Metal produced at PGDP is 9E+09g (shipments-receipts)  Maximum Constituent/Calculations:  Pu: .063ppb Pu: .063ppb Pu: .063ppb x 1.91 = 120ppb Pu: .063ppb x 1.91 = 120ppb Pu: .12 x 100/5 = 2.4ppb Pu: .12											
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5.) Uranium Metal produced at PGDP is 9E+09g (shipments-receipts)  Maximum Constituent/Calculations:  Pu: .063ppb- Np: 62.6ppb		3.) Maximum concentr	ations	of TRU an	d FP are stil	I the same as Activity	5 in the	UF4			
5.) Uranium Metal produced at PGDP is 9E+09g (shipments-receipts)  Maximum Constituent/Calculations:  Pu: .063ppb- Np: 62.6ppb		4.) All TRU and FP go	es to l	Magnesium	Fluoride Sla	ng					
Pu: .063ppb											
Pu: .063ppb						. ,					
Np: 62.6ppb   In UF4   Np: 62.6ppb x 1.91 = 120ppb   In slag sample basis   Tc: 49 x 1.91 = 94ppb   Tc: 49 x 1.91 = 94ppb   Pu: .12 x 100/5 = 2.4ppb   Np: 120 x 100/5 = 2.4ppb   In slag ( U basis, Assuming 5% U)   Tc: 94 x 100/5 = 1,880ppb   Occupational Potential Exposure = Airborne Potential x Constituent   Calculation of Potential Inhalation Dose:   Level x Exposure Duration   Inform Pu: 2.4/4.34 x 10% = 5.5%   Inform Pu: 2.4/4.34 x 10% = 63%   Inform Pu: 2.4/4.34 x 10% = 63	Maximun	n Constituent/Calculati	ons:								
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Tc: 49 x 1.91 = 94ppb  Pu: .12 x 100/5 = 2.4ppb  Np: 120 x 100/5 = 2,400ppb Tc: 94 x 100/5 = 1,880ppb  Occupational Potential Exposure = Airborne Potential x Constituent  Calculation of Potential Inhalation Dose:  (from Appendix A, Priortization of Uranium Flow) from Pu: 2.4/4.34 x 10% = 5.5% from Np: 2,400/379 x 10% = 63% total = 68.5%  O No Significant Occupational Exposure Potential t Low Ocupational Exposure Potential 2 2-9 Moderate Occupational Exposure Potential A) Airborne Potential 3 B) Constituent Level 3 C) Exposure Duration 2  OPE: A x B x C = 18		• • • • •	In UF	4			≻ In	slag sample basis			
Np: 120 x 100/5 = 2,400ppb Tc: 94 x 100/5 = 1,880ppb Occupational Potential Exposure = Airborne Potential x Constituent  Calculation of Potential Inhalation Dose: (from Appendix A, Priortization of Uranium Flow) from Pu: 2.4/4.34 x 10% = 5.5% from Np: 2,400/379 x 10% = 63% total = 68.5% O No Significant Occupational Exposure Potential total = 68.5% O No Significant Occupational Exposure Potential 2 2-9 Moderate Occupational Exposure Potential A) Airborne Potential 3 B) Constituent Level 3 B) Constituent Level 3 C) Exposure Duration 2		Tc: 49ppb					J				
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(from Appendix A, Priortization of Uranium Flow)  from Pu: 2.4/4.34 x 10% = 5.5%  from Np: 2,400/379 x 10% = 63%  total = 68.5%  0 No Significant Occupational Exposure Potential  1 Low Ocupational Exposure Potential  2 2-9 Moderate Occupational Exposure Potential  Calculation of Occupational Potential Exposure Rating  A) Airborne Potential 3  B) Constituent Level 3  C) Exposure Duration 2	Calculati	on of Potential Inhalati	on Do	ose:							
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Calculation of Occupational Potential Exposure Rating  A) Airborne Potential 3  B) Constituent Level 3  C) Exposure Duration 2											
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A) Airborne Potential 3  B) Constituent Level 3  C) Exposure Duration 2	Calculation	on of Occupational Po	tentia	l Exposure	Rating						
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